

That which is claimed is:

1. A preterminated fiber optic distribution cable having at least one access location for providing access to at least one preterminated optical fiber, comprising:

at least one buffer tube comprising at least one optical fiber;

5 a buffer tube transition piece operable for transitioning the at least one optical fiber from the at least one buffer tube into at least one protective tube;

a molded member defining a longitudinally extending optical fiber guide channel operable for storing a length of the at least one preterminated optical fiber; and

10 a protective means operable for protecting the at least one buffer tube, the buffer tube transition piece and the molded member during installation of the preterminated fiber optic distribution cable.

2. The preterminated distribution cable of claim 1, wherein an outer diameter of the preterminated distribution cable is less than 1.9 inches.

15 3. The preterminated distribution cable of claim 1, wherein an outer diameter of the preterminated distribution cable is less than about 1.25 inches.

4. The preterminated distribution cable of claim 1, wherein the preterminated distribution cable, the at least one buffer tube, the buffer tube transition piece and the molded member are sufficiently flexible to permit the fiber optic distribution cable to be installed through a small diameter conduit.

20 5. The preterminated distribution cable of claim 1, wherein the optical fiber guide channel is axially aligned with the buffer tube transition piece.

6. The preterminated distribution cable of claim 1, wherein a length of the optical fiber guide channel ranges from about 20 to about 30 inches.

25 7. The preterminated distribution cable of claim 1, wherein the protective means comprises a heat shrinkable material operable for securing the molded member and for

providing a smooth transition between an outer diameter of a cable sheath and the molded member.

8. The preterminated distribution cable of claim 1, further comprising at least one ripcord disposed underneath the protective means operable for removing the protective means after cable installation in order to expose the molded member.

9. The preterminated distribution cable of claim 1, further comprising a water-swellaable tape disposed between the protective means and the molded member.

10. A method of mid-span accessing at least one optical fiber from a fiber optic distribution cable, comprising:

removing a predetermined length of a cable sheath to expose a predetermined length of at least one buffer tube;

cutting at least one longitudinally extending slit on the cable sheath on a downstream end from the exposed predetermined length of the at least one buffer tube;

flaring the cut cable sheath to expose an additional length of the at least one buffer tube;

cutting at least two access points on an appropriate buffer tube along the buffer tube length;

severing at least one optical fiber at a first one of the access points to produce at least one preterminated optical fiber; and

fishing the at least one preterminated optical fiber out of a second one of the access points to withdraw a first preterminated optical fiber length.

11. The method of claim 10 wherein the step of cutting comprises cutting at least three access points and further comprising fishing the at least one preterminated optical fiber out of the third access point to withdraw a second preterminated optical fiber length that is longer than the first preterminated optical fiber length.

12. The method of claim 10, further comprising repairing the flared and cut cable sheath using a heat shrinkable material.

13. The method of claim 10, wherein the first preterminated optical fiber length and the second preterminated optical fiber length together equal about 20 to about 30 inches.

5 14. The method of claim 10, further comprising:

transitioning the at least one preterminated optical fiber out of the appropriate buffer tube and into at least one protective tube via a buffer tube transition piece;

maintaining the at least one preterminated optical fiber in a C-shaped molded member comprising a longitudinally extending optical fiber guide channel; and

10 protecting and sealing the mid-span access with a heat shrinkable material.

15. The method of claim 14, further comprising removing the heat shrinkable material after distribution cable installation using at least one ripcord disposed underneath the heat shrinkable material.

15 16. A buffer tube transition piece operable for transitioning a plurality of preterminated optical fibers from a buffer tube into protective optical fiber tubing, comprising:

an optical fiber opening for receiving the preterminated optical fibers exiting from a pre-selected buffer tube;

20 a cavity for routing the preterminated optical fibers into at least one optical fiber slot; and

a C-shaped channel for receiving the pre-selected buffer tube; and

wherein the optical fiber slot is operable for maintaining the preterminated optical fibers and securing the protective optical fiber tubing.

17. The buffer tube transition piece of claim 16, wherein the at least one optical fiber slot is positioned downstream of an origination of the preterminated optical fibers.

18. The buffer tube transition piece of claim 16, wherein the buffer tube transition piece is sufficiently flexible to be positioned and securely retained on the buffer tube.

5 19. The buffer tube transition piece of claim 16, wherein a sealing means is used to fill voids within the buffer tube transition piece after the preterminated optical fibers have been routed.

20. The buffer tube transition piece of claim 16, wherein the at least one optical fiber slot maintains the preterminated optical fibers in at least one linear array.

10 21. A fiber optic communications network comprising:

a preterminated fiber optic distribution cable comprising a plurality of optical fibers and at least one predetermined access location for providing access to at least one of the optical fibers;

15 a splice closure comprising a splice tray for splicing the at least one optical fiber of the preterminated fiber optic distribution cable to a respective optical fiber of a drop cable; and

an outside plant closure for receiving the drop cable;

20 wherein the fiber optic distribution cable further comprises a buffer tube transition piece operable for transitioning the at least one optical fiber into a molded member defining a longitudinally extending optical fiber guide channel operable for storing a length of the at least one optical fiber.